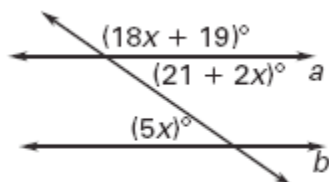


# Geometry    Date\_\_\_\_\_    3.5 Assignment Using Properties of Parallel Lines (pp 157-158)

1. What is your name?

Find the value of  $x$  so that  $a \parallel b$ . Show some work!

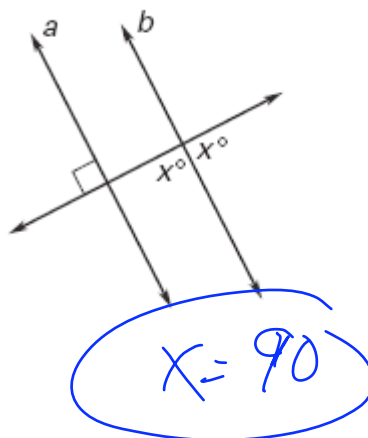
2.



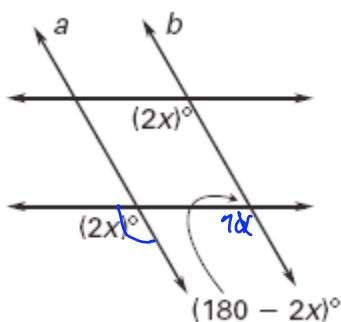
$$5x = 21 + 2x$$

$$x = 7$$

3.



4.



Infinite answers

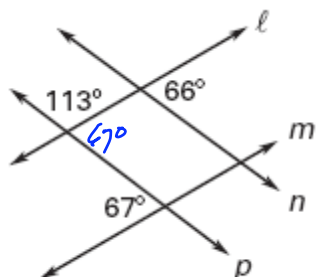
$$180 - 2x + 2x$$



# Geometry Date\_\_\_\_\_ 3.5 Assignment Using Properties of Parallel Lines (pp 157-158)

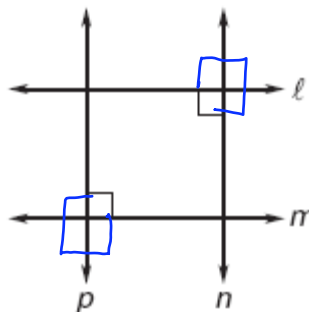
Determine which lines, if any, must be parallel. Explain your reasoning.

5.



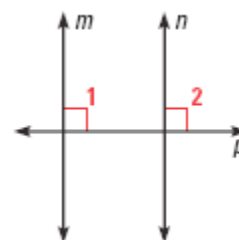
$l \parallel m$

6.



Can't If Any Are Parallel.

7. The following statements are from a flow proof of the proof of "if two lines are perpendicular to the same line, then they are parallel to each other." Rearrange the statements to form a flow proof. Remember to include a reason for each statement.



**Given:**  $m \perp p$   
 $n \perp p$

$\angle 1 \cong \angle 2$

$n \perp p$

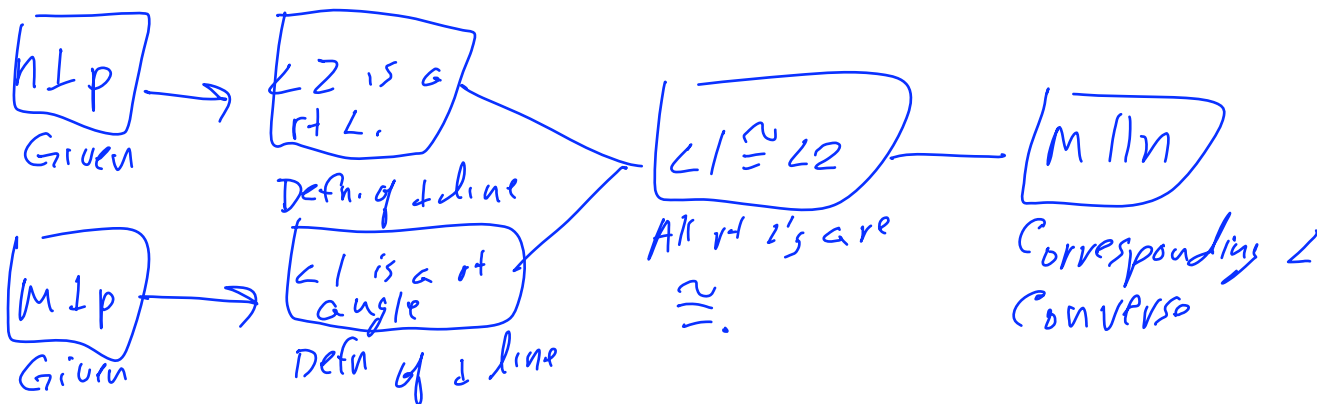
$\angle 1$  is a right  $\angle$ .

$m \parallel n$

$m \perp p$

$\angle 2$  is a right  $\angle$ .

**Prove:**  $m \parallel n$

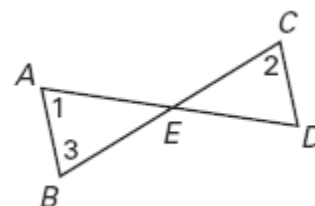


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8. Write a two column proof.

**Given:**  $\angle 1 \cong \angle 2$   
 $\angle 1 \cong \angle 3$

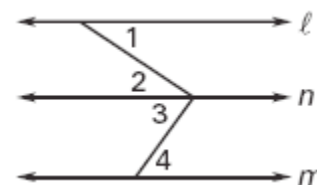
**Prove:**  $\overline{AB} \parallel \overline{CD}$



9. Write a two column proof.

**Given:**  $\angle 1 \cong \angle 2$   
 $\angle 3 \cong \angle 4$

**Prove:**  $\ell \parallel m$



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**Using Properties of Parallel Lines (pp 157–158)**

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Using Properties of Parallel Lines (pp 157–158)

Review.

Find the distance between the two points. (Chapter 1 Section 3)

10.  $(-3, -8)$  &  $(2, -1)$

$\sqrt{74}$  or 8.60

11.  $(0, -7)$  &  $(6, 3)$

$2\sqrt{34}$  or 11.66

12.  $(5, -7)$  &  $(-11, 6)$

$5\sqrt{17}$  or 20.62

13.  $(4, 4)$  &  $(-3, -3)$

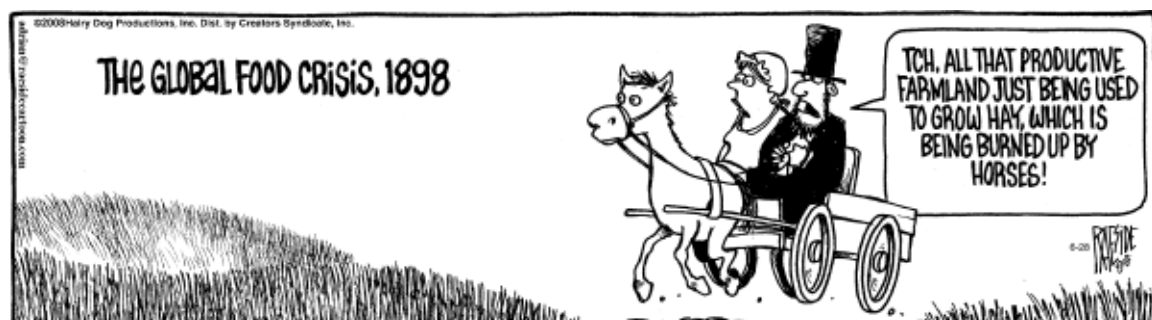
$7\sqrt{2}$  or 9.90

Give a counterexample that demonstrates that the converse of the statement is false. (Chapter 2 Section 2)

14. If an angle measures  $42^\circ$ , then it is acute.

15. If two angles measure  $150^\circ$  &  $30^\circ$ , then they are supplementary.

16. If a polygon is a rectangle, then it contains four right angles.



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17. Given:  $j \parallel k$   
 $m\angle 1 = 33^\circ$

Find the measure of the other seven angles.

$$m\angle 2 = 147^\circ$$

$$m\angle 3 = 147^\circ$$

$$m\angle 4 = 33^\circ$$

$$m\angle 5 = 33^\circ$$

$$m\angle 6 = 147^\circ$$

$$m\angle 7 = 147^\circ$$

$$m\angle 8 = 33^\circ$$

